



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,155	12/22/2000	David W. Green	D5407-109 584-23399-US	2343

7590 07/31/2003

Gary R. Maze
Duane, Morris & Heckscher LLP
Suite 500
One Greenway Plaza
Houston, TX 77046

EXAMINER

KENDALL, CHUCK O

ART UNIT	PAPER NUMBER
----------	--------------

2122

5

DATE MAILED: 07/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/746,155

Applicant(s)

GREEN ET AL.

Examiner

Chuck O Kendall

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the application filed 12/22/00.
2. Claims 1-34 have been examined.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-12, 14-18, 20-23, 25, 26, 28-30, and 32-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Alcorn et al. USPN 6,263,498.

Regarding claim 1 a method for designing a software architecture for utilizing software components in building N-tier software applications, the method comprising:

a. specifying a set of software component rules for creating software components (5:60-65);

b. specifying a set of tier rules for creating an extensible set of tiers, the tier rules further comprising (6:15-25):

i. a set of association rules by which at least one software component created using the software component rules may be associated with or disassociated from at least one tier created with the set of tier rules (6:50-60);

ii. a set of tier framework rules to provide an architect context for software components associated with a tier (6:50-60); and

iii. a set of package rules to provide for logical grouping of interfaces within a framework defined by the tier framework rules to provide a set of specific

behaviors for the tier (6:15-20, see dips and refer to figure 9 for adding and modifying rules); and

c. specifying a set of assembly rules, the assembly rules comprising association rules by which each tier may be associated with at least one other tier and linkage rules by which each tier may be linked to at least one other tier (6:1-20, see customizable JDBC for link to tier).

Regarding claim 2 the method of claim 1, wherein specifying a set of software component rules for creating software components further comprises:

a. specifying rules for specifying interfaces for each software component (5:10-29) ; and

b. specifying rules for specifying behavior exhibited by each software component (6:17-19).

Regarding claim 3 the method of claim 2 wherein specifying rules for specifying behavior further comprises:

a. specifying rules on how each software component encapsulates details of how functionality is implemented for that software component (9:53-55); and

b. specifying rules on creating a well-defined interface reusable at a binary level for each software component (10:40-50);

c. whereby each software component may be made available for use by any other software component that can use the well-defined interface of the first software component (10:45-65);.

Regarding claim 4 the method of claim 1 further comprising specifying library rules for selectively placing software components into and retrieving software components from an inventory of software components (6:30-35).

Regarding claim 5, the method of claim 1, wherein software components rules comprise rules for supporting off-the-shelf components within software components or tiers, including rules to allow addition of off-the-shelf software components into the inventory (5:35-40).

Regarding claim 6 the method of claim 1 further comprising specifying at least one software component modification rule whereby software components may be extended, the at least one software component modification rule comprising addition, modification, and deletion rules (6:17-19, see modify).

Regarding claim 7 the method of claim 1 wherein the software component rules further comprise rules for designating software component function points (6:5-10, see functions).

Regarding claim 8 the method of claim 7 wherein the rules for designating software component function points further comprise rules to allow implementing software component interfaces required by a particular tier to which the software component belongs (5:50-60, see CORBA).

Regarding claim 9 see reasoning in claim 1.

Regarding claim 10 the method of claim 1 wherein the framework rules further comprise rules on specifying at least one package for a framework, the package further comprising a set of interfaces to provide a specific behavior (5:50-6:20, see CORBA and JDBC for interfaces for specific behavior).

Regarding claim 11 the method of claim 1 further comprising:

- a. specifying a basic design structure comprising base components for software components in the tier (8:14-20); and
- b. specifying a set of standard interfaces for the software components categorized as belonging to the tier(8:1-20);.

Regarding claim 12 the method of claim 1 wherein specifying a set of assembly rules further comprises:

- a. specifying rules to allow assembling and compiling at least one tier to provide a stand-alone, executable program(6:25-50, for assembling and compiling see build time); and
- b. specifying rules on allowing combining software components and invoking an assembled application at run-time to form new unique applications on-the-fly (6:40-45).

Art Unit: 2122

Regarding claim 14 the method of claim 1 further comprising specifying rules to allow defining one or more techniques to allow a software component to traverse a model, the model comprising one or more software components (9:30-35).

Regarding claim 15 the method of claim 14 wherein the traversal of a model uses a predetermined interface (Fig 7, 706).-

Regarding claim 16 the method of claim 1 further comprising specifying rules on implementing a template iterator class to facilitate accessing associations (6:10-15, see data access part).

Regarding claim 17 the method of claim 16 wherein the template iterator class can be based at any software component's associations and can be used to iterate through all software components in the association or only through a specific software component type(9:50-60).

Regarding 18 see reasoning in claim 1.

Regarding claim 20 see claim 1 for reasoning.

Regarding claim 21 see claim 2 for reasoning.

Regarding claim 22 the method of claim 21, further comprising specifying rules on defining packages, the packages comprising grouping of interfaces within a framework into subsets of interfaces to specify how a specific behavior, such as messaging or connecting, is to be provided (11:45-55).

Regarding claim 23 see claim 1 for reasoning.

Regarding claim 25 method of claim 23 wherein the new or restructured software components are either tailored into the current architecture or the architecture is expanded by adding one or more tiers to accommodate the new or restructured software component (figure 9, 902).

Regarding claim 26 the method of claim 23 where software components that are so specific they can only be used in a current application are not added to the inventory (Alcorn 5: 45-50 for specific components see Java remote method invocation and CORBA).

Regarding claim 28 see reasoning in claim 5.

Regarding claim 29 see reasoning in claim 1.

Regarding claim 30 see fig 1.
Regarding claim 32 see claim 1 for reasoning.
Regarding claim 33 see claim 1 for reasoning.
Regarding claim 34 see claim 2 for reasoning.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13, 19, & 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn et al. USPN 6,263,498 as applied in claim 1, in view of Ozze et al USPN 6,446,113 B1.

Regarding claims 13 Alcorn discloses all the claimed limitations as applied in claim 1. Alcorn doesn't explicitly disclose allowing each software component to execute asynchronously. However, Ozze does disclose this feature (Ozze, 6:48). Therefore it would have been obvious to one of ordinary skills in the art at the time the invention was made to combine Alcorn with Ozze because, executing asynchronously within the thread eliminates delays and executes independently of other routines.

Regarding claim 19 the method of claim 18 wherein the software component is reusable by any system Toying software components designed in accordance with the method of claim 18 (Ozze 3:50-55).

Regarding claim 31 the system of claim 30 wherein the network comprises asynchronous communications, synchronous communications, local communications, local area networks, wide area networks, and local bus networks (Ozze, 6:48 and claim 22 for synchronous notification and communication).

Art Unit: 2122

6. Claims 24,27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alcorn et al. USPN 6,263,498 as applied in claim 23 in view of Gish USPN 5,848,246.

Regarding claim 24 Alcorn teaches all the claimed limitations as applied in claim Alcorn doesn't explicitly disclose testing each software component and adding components if seen to be reusable. However, Gish does disclose this feature (11:55-65). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Alcorn and Gish because, testing and reusing components are general practices in frameworks and makes programs more flexible and reusable.

Regarding claim 27 the method of claim 24 wherein testing comprises testing and validation (Gish, 25:55-58).

Correspondence Information

7. Any inquires concerning this communication or earlier communications from the examiner should be directed to Chuck O. Kendall who may be reached via telephone at (703) 308-6608. The examiner can normally be reached Monday through Friday between 8:00 A.M. and 5:00 P.M. est.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam *can be* reached at (703) 305-4552.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

For facsimile (fax) send to 703-7467239 official and 703-7467240 draft

Chuck O. Kendall

Software Engineer Patent Examiner
United States Department of Commerce


TUAN Q. DAM
PRIMARY EXAMINER